

IN THE UNITED PATENT AND TRADEMARK OFFICE

APPLICANT: YOSHIHARU CHIKAZAWA
FILED: HEREWITH
FOR: THREE DIMENSIONAL DISPLAY APPARATUS
OF THE INTEGRAL PHOTOGRAPHY TYPE

PRELIMINARY AMENDMENT

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, DC 20231

Sir:

Prior to examination and prior to calculation of the filing fee, please amend the following in the above-identified patent application.

IN THE CLAIMS:

1. (Amended) An integral photography type apparatus for displaying a three dimensional (3D) image of a reproduced object, the display apparatus [of the integral photography type] comprising:
a passive first array of points and a second array representing [an] a 3D image to be displayed[, this];

the second array having [comprising] a set of subarrays, each said subarray being associated with a corresponding point of the passive first array, and each said point of each said subarray containing [an] information about a point of the 3D image to be displayed[,];

a light ray from a point of a subarray to the associated point of the passive array virtually converging to the corresponding point of the 3D image to be displayed; and, [said 3D apparatus comprising] means for controlling the position of the 3D image with

respect to the first and second arrays through the control of the direction of said light rays.

2. (Amended) A 3D display apparatus according to claim 1, [characterized in that it comprises] comprising means for controlling the distance between the passive first array and the second array.

3. (Amended) A 3D display apparatus according to claim 2, [characterized in that] wherein the passive first array is moveable and the second array is stationary.

4. (Amended) A 3D display apparatus according to claim 1, [characterized in that it comprises] comprising a manual controller for controlling the position of the 3D image.

5. (Amended) A 3D display apparatus according to claim 1, [characterized in that it comprises] comprising means for controlling the position of each point of the passive first array and/or each point of the second array.

6. (Amended) A 3D display apparatus according to claim 5, wherein [characterized in that] said means for controlling the position of each point controls the distance of the reproduced object to the arrays.

7. (Amended) A 3D display apparatus according to claim 5, wherein [characterized in that] said means for controlling the position of each point controls the position of the reproduced object in a direction parallel to the surface of the array representing the object.

8. (Amended) A 3D display apparatus according to claim 1, [characterized in that it comprises] comprising means for controlling the position of the 3D image relative to a [in view of the] position of a [the] viewer.

9. (Amended) A 3D display apparatus according to claim 8, [characterized in that it comprises] comprising sensor means for detecting the position of the [eyes of the] viewer's eyes.

10. (Amended) A 3D display apparatus according to claim 1, [characterized in that] wherein the second array is a flat surface display[, such as a liquid crystal display].

11. (Amended) A 3D display apparatus according to claim 1, [characterized in that] wherein each point of the passive first array is an aperture of a plate[, or a lens].

Add the following:

-- 12. A 3D display apparatus according to claim 1, wherein the second array is a liquid crystal display.

13. A 3D display apparatus according to claim 1, wherein each point of the passive first array is a lens. --

IN THE ABSTRACT (an un-numbered page following the claims):

**[THREE DIMENSIONAL DISPLAY APPARATUS OF THE INTEGRAL PHOTOGRAPHY
TYPE]**

ABSTRACT

A [The invention concerns a] three dimensional (3D) display apparatus [comprising] comprises a passive array (16) of points (a, b, c) and an array (14) representing the image to be displayed[, this]. This second array [comprising] comprises a set of subarrays (A', B', C'). Each subarray is associated with a corresponding point of the passive array, and each point of each subarray contains an information about a point of the 3D image to display. A light ray from a point (A'5) of a subarray to the associated point (a) of the passive array virtually converges to the corresponding point (P₁) of the 3D image.

The [display comprises means for controlling the] position of the 3D image (P₁Q₁) is controlled with respect to the arrays through the control of the direction of said light rays (A'5a, A'7a).

The [Preferably, means are provided for controlling the] distance (d) between the passive array (16) and the second array (14) is preferably controlled.

[Figure 2.]

REMARKS

The claims and Abstract have been amended to be consistent with 35 USC 112 and with English language grammar and syntax.

A substitute Abstract in accordance with the above noted revisions is submitted herewith as a single paragraph on a sheet without a page number.

Respectfully submitted,
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Abstract

A three dimensional (3D) display apparatus a passive array (16) of points (a, b, c) and an array (14) representing the image to be displayed. This second array comprises a set of subarrays (A', B', C'). Each subarray is associated with a corresponding point of the passive array, and each point of each subarray contains an information about a point of the 3D image to display. A light ray from a point (A'5) of a subarray to the associated point (a) of the passive array virtually converges to the corresponding point (P₁) of the 3D image. The position of the 3D image (P₁Q₁) is controlled with respect to the arrays through the control of the direction of said light rays (A'5a, A'7a). The distance (d) between the passive array (16) and the second array (14) is preferably controlled.